

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the amendments and in view of the reasons that follow.

Claims 30-46 and 50-55 were previously withdrawn from consideration as a result of the restriction requirement contained in the Office Action of July 13, 2005. The restriction requirement was timely traversed by applicant in a Response to Restriction Requirement filed August 4, 2005. Claim 47 has been amended. Claims 1-29 and 47-49 are now pending in this application.

I. Rejection of Claims 1-4, 7-10, 12-18, and 23-29 under 35 U.S.C. § 102(b)

In Section 14 of the Office Action, claims 1-4, 7-10, 12-18, and 23-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,976,900 (Tsutsumi). Applicant respectfully traverses this rejection.

Claim 1 recites:

(b) a gas supply tube containing a gas at a first pressure;

...

(d) a gas exhaust channel containing the gas at a second pressure, wherein the gas exhaust channel is operably coupled to receive the gas from the orifice member, and wherein the second pressure is lower than the first pressure;

On pages 3-4 of the Office Action dated 9/14/2005, the Examiner states:

With respect to claims 1 - 4, Tsutsumi teaches ..., a gas supply tube containing a gas at a first pressure (item 11- figure 1; column 3, lines 1 - 2), ... and a gas exhaust channel containing the gas at a second pressure, ... and wherein the second pressure is lower than the first pressure (item 22 – figures 1 and 3; column 4, lines 20 – 25).

Applicant respectfully disagrees because Tsutsumi fails to teach at least the limitation “a gas exhaust channel containing the gas at a second pressure, ... wherein the second pressure is lower than the first pressure” as required by claim 1.

Tsutsumi describes a “method and an apparatus for injecting a steam into a mold in an injection molding machine by injecting a desired stream toward the opening of the metal mold.” (Tsutsumi, Abstract). As such, Tsutsumi describes a “stream-passing hole 10 with a nozzle portion opened on a metal mold opening surface 1a in the vicinity of the respective cavities 4 of the stationary metal mold 1” (Tsutsumi, Col. 2, lines 64-67) and “a stream-passing hole 13 with a nozzle portion opened on a metal mold opening surface 3a in the vicinity of the respective cavities 4 formed on the movable metal mold 3.” (Tsutsumi, Col. 3, lines 6-8).

Tsutsumi still further describes:

the air-passing pipe 21 ... is connected to one side portion of the stationary metal mold 1 and an aspirating pipe 22 for aspirating the stream is connected to another side portion, ... whereby the method adds a structure in which the method can be used in combination with the air gashing method by which the stream is acted on the metal mold opening surfaces 1a and 3a.

(Tsutsumi, Col. 4, lines 19-28; emphasis added). Thus, the aspirating pipe 22 provides the exhaust channel for the streams of the stream passing holes 10, 13 and the air-passing pipe 21. As indicated by its name, the aspirating pipe 22 aspirates or pulls the stream from the opening as the molds 1, 3 separate following the mold compacting state shown in FIG. 2 of Tsutsumi. Tsutsumi fails to disclose any relationship between the dispensing pressure of the stream passing holes 10, 13 and the air-passing pipe 21 and the aspiration pressure of the aspirating pipe 22. Therefore, Tsutsumi fails to teach at least the limitation “a gas exhaust channel containing the gas at a second pressure, ... wherein the second pressure is lower than the first pressure.”

As a result, Tsutsumi fails to disclose, suggest, or teach all of the limitations of claim 1. An anticipation rejection cannot properly be maintained where the reference used in the rejection

does not disclose all of the recited claim elements. Applicant respectfully traverses any arguments posed by Examiner relative to claims 2-29 as they are allowable for at least the reasons outlined above relative to claim 1. Therefore, Applicants respectfully request withdrawal of the rejection of claims 1-29.

II. Rejection of Claims 47-49 under 35 U.S.C. § 102(b)

In Section 14 of the Office Action, claims 47-49 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,460,761 (Larsson). Applicants respectfully traverse this rejection.

Claim 47, as amended, recites:

- (b) a pipe containing a gas at a first pressure and having at least one orifice member in thermal communication with at least one portion of the injection mold; and
- (c) a bore in the injection mold at least partially surrounding the orifice member and containing the gas at a second pressure, wherein the second pressure is no higher than the first pressure, and further wherein the bore provides an exhaust channel for the gas

On pages 7-8 of the Office Action dated 9/14/2005, the Examiner states:

Larsson teaches ...; a pipe containing a gas (column 3, lines 50 – 51) ... and a bore in the injection mold at least partially surrounding the orifice member and containing the gas at a second pressure, wherein the second pressure is no higher than the first pressure (item 7 – figure 1; column 5, lines 40 – 41).

Applicant respectfully disagrees because Larsson fails to teach at least the limitations “a pipe containing a gas at a first pressure” and “wherein the bore provides an exhaust channel for the gas” as required by claim 47.

Larsson describes a “[m]ethod for tempering a moulding tool intended for production of products of natural or synthetic polymers.” (Larsson, Abstract). Larsson further describes:

an injection moulding tool comprising one mobile half 1 and one stationary half 2 is shown. Each moulding half comprises a moulding part 3, 4 made of a porous sintered material with communicating pores as disclosed above. In the part 3 there is an expansion room 5 whereinto a capillary tube 6 runs. Also the part 4 contains an expansion room 7 whereinto a capillary tube 8 runs.

(Larsson, Col. 5, lines 36-41). Larsson still further describes:

A container 17 with liquid carbon dioxide is connected to the capillary tubes 6, 8. The supply of gas can be regulated by hand valves 18. Gaseous state cooling gas, air and/or gases formed at the moulding of the plastic can be evacuated via pipes 19 and hand valves 20.

The addition of liquid state cooling gas, evacuation of gaseous state cooling gas and gases possibly formed from the polymer as well as the opening and the closing of the moulding tool etc can be directed by means of a control unit 21.

(Larsson, Col. 5, lines 57-66; emphasis added). As a result, Larsson fails to disclose “a pipe containing a gas at a first pressure.”

Larsson also fails to disclose “wherein the bore provides an exhaust channel for the gas.” As described by Larsson, “[s]ealings 16 are also arranged between the outer surfaces of the capillary tubes 6, 8 and the recesses 13 and 14 respectively.” (Larsson, Col. 5, lines 54-56). Thus, the capillary tubes 6, 8 are used **both** to dispense the liquid carbon dioxide and to evacuate the gas as shown in FIGs. 1 and 2 of Larsson. Therefore, Larsson fails to teach “wherein the bore provides an exhaust channel for the gas.”

As a result, Larsson fails to disclose, suggest, or teach all of the limitations of claim 47. An anticipation rejection cannot properly be maintained where the reference used in the rejection does not disclose all of the recited claim elements. Applicant respectfully traverses any arguments posed by Examiner relative to claims 48 and 49 as they are allowable for at least the reasons outlined above relative to claim 47. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 47-49.

III. Rejection of Claims 5, 6, 11, and 19-22 under 35 U.S.C. § 103(a)

In the Office Action, claims 5, 6, 11, and 19-22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tsutsumi in view of Larsson. Applicant respectfully traverses this rejection because the Examiner has failed to present a prima facie case of obviousness. At a minimum, the Examiner has failed to demonstrate that Tsutsumi and Larsson, alone or in combination, disclose, teach, or suggest all of the claim limitations as recited in claims 5, 6, 11, and 19-22.

As discussed in Section I. above, Tsutsumi fails to teach at least the limitation “a gas exhaust channel containing the gas at a second pressure, ... wherein the second pressure is lower than the first pressure” as required by claim 1. Larsson also fails to teach at least the limitation “a gas exhaust channel containing the gas at a second pressure, ... wherein the second pressure is lower than the first pressure” as required by claim 1. As discussed in Section II. above, Larsson describes:

A container 17 with liquid carbon dioxide is connected to the capillary tubes 6, 8. The supply of gas can be regulated by hand valves 18. Gaseous state cooling gas, air and/or gases formed at the moulding of the plastic can be evacuated via pipes 19 and hand valves 20.

(Larsson, Col. 5, lines 57-61; emphasis added). Larsson further describes that “[s]ealings 16 are also arranged between the outer surfaces of the capillary tubes 6, 8 and the recesses 13 and 14 respectively.” (Larsson, Col. 5, lines 54-56). Thus, the capillary tubes 6, 8 are used both to dispense the liquid carbon dioxide and to evacuate the gas as shown in FIGs. 1 and 2 of Larsson. Larsson fails to disclose any relationship between the dispensing pressure of the capillary tubes 6, 8 and the evacuation pressure of the capillary tubes 6, 8. Therefore, Larsson fails to teach at least the limitation “a gas exhaust channel containing the gas at a second pressure, ... wherein the second pressure is lower than the first pressure.”

As a result, neither Tsutsumi nor Larsson disclose, suggest, or teach all of the limitations of claim 1. An obviousness rejection cannot be properly maintained where the references used in the rejection do not disclose all of the recited claim elements. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 5, 6, 11, and 19-22 which depend from claim 1.

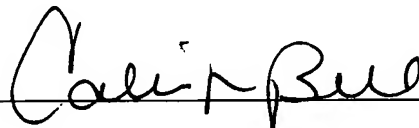
Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2350. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 50-2350. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2350.

Respectfully submitted,

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